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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/991,689

11/26/2001

Kiyoshi Fukuchi

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30743

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11/04/2004

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EXAMINER

WONG, ERIC K

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

lfn

Office Action Summary

Application No.

09/991,689

Applicant(s)

FUKUCHI, KIYOSHI

Examiner

Eric Wong

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 12 and 16-24 is/are rejected.
- 7) ☒ Claim(s) 5-11, 13-15, 25 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/16/04 has been entered.

Response to Arguments

2. Applicant's arguments, filed 7/8/2004 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of USPN 5,563,733 to Mitsuda et al.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 16, 18, 19, 21, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,563,733 to Mitsuda et al.

As to claim 1, 16, 19 and 22, Mitsuda et al. discloses in figure 10, an optical wavelength-multiplexing transmission system for transmitting a first wavelength (53; 1.53um) and second wavelength-multiplexing light (51; 1.56um) in opposite directions through an optical transmission medium allowing bi-directional wavelength-multiplexing transmission, wherein

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- A wavelength band of the first wavelength-multiplexing light is set to a shorter wavelength side as compared to a wavelength band of the second wavelength-multiplexing light; and
- Excitation light having a wavelength shorter than the wavelength band of the first (12; 1.46 μ m), wavelength-multiplexing light travels through the optical transmission **medium** in a same direction as the second wavelength-multiplexing light.
- Two amplifiers for amplifying light (32, 33)

As to claims 3, 18, 21, and 24, the light wavelengths are at least 100nm.

As to claim 4, a first and second transceiver for input/output light is used (transmitting/receiving stations with input and output ports).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 17, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuda et al. as applied to claims 1, 16, 19 and 22 above.

Mitsuda et al. discloses wavelengths of excitation light shorter than multiplexing light, but fails to explicitly disclose the wavelength by determining the Raman scattering characteristics of the transmission medium.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the wavelength depending on the Raman scattering characteristic of the transmission medium since it was known in the art that Raman amplification characteristics can reduce power loss of an optical signal (Paragraph 13, Applicant's disclosure of prior art).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuda et al. as applied to claim 1 above.

Mitsuda et al. discloses the use of wavelength multiplexing light in the range centered near a wavelength of 1550nm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a range for the first wavelength multiplexing light between 1480nm to 1520nm and the second wavelength multiplexing light in a range between 1580nm to 1620nm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum range or workable ranges involves only routine skill in the art.

Claim Objections

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record fails to explicitly disclose a repeater provided between two transceivers comprising an excitation light injector.

9. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim

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and any intervening claims. The prior art made of record fails to explicitly disclose a second end device comprising a third and fourth transceiver for injecting light.

10. Claims 8-11, 13-15, and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record fails to explicitly disclose a third wavelength multiplexing light.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EW



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